



Performing Engineering Operations (QCF)

These QCF qualifications will provide recognition of the skills, competence and knowledge of individuals who work in a variety of roles in the engineering industry.

Document detail:

Level 1 NVQ Certificate in Performing Engineering Operations (QCF) - 22 Credits

Level 2 NVQ Diploma in Performing Engineering Operations (QCF)

- Engineering Practices Pathway - 40 Credits
- Technical Support Pathway - 64 Credits

Who are the Qualifications for:

These qualifications are intended for learners who are undertaking an engineering apprenticeship or are new entrants to the engineering sector and wish to develop a broad range of engineering competencies to enable safe progression into the workplace/employment. It will also benefit learners who are already in employment but require additional engineering competencies as part of an existing job role or to enable career progression which involves the application of skills, knowledge and understanding in a range of work activities often performed in a variety of contexts.

For the Certificate: 5 Units totalling a minimum of 22 Credits are required.

Mandatory Units

- PEO2-001 Working safely in an engineering environment - 5 Credits
 - PEO1-002 Carrying out engineering activities efficiently and effectively - 3 Credits
 - PEO1-003 Using and communicating technical information - 3 Credits
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Optional Units - Learners must achieve 2 Optional Units.

- PEO1-004 Making components using hand tools and fitting techniques - 10 Credits
 - PEO1-005 Assembling mechanical components - 10 Credits
 - PEO1-006 Carrying out pipe fitting activities - 10 Credits
 - PEO1-007 Using lathes for turning operations - 10 Credits
 - PEO1-008 Using milling machines - 10 Credits
 - PEO1-009 Using grinding machines - 10 Credits
 - PEO1-010 Carrying out routine servicing of mechanical equipment - 10 Credits
 - PEO1-011 Assembling fluid power equipment - 10 Credits
 - PEO1-012 Carrying out sheet metal cutting, forming and assembly activities - 10 Credits
 - PEO1-013 Cutting and shaping platework components - 10 Credits
 - PEO1-014 Using oxy-fuel gas cutting equipment - 10 Credits
 - PEO1-015 Using manual metal arc welding equipment - 10 Credits
 - PEO1-016 Using manual TIG welding equipment - 10 Credits
 - PEO1-017 Using manual MIG or MAG welding equipment - 10 Credits
 - PEO1-018 Using manual oxy-fuel gas welding equipment - 10 Credits
 - PEO1-019 Using manual flame brazing and soldering equipment - 9 Credits
 - PEO1-020 Wiring electrical equipment and circuits - 10 Credits
 - PEO1-021 Assembling electrical wiring support systems - 10 Credits
 - PEO1-022 Assembling and wiring electrical panels - 10 Credits
 - PEO1-023 Assembling electronic circuits - 10 Credits
 - PEO1-024 Carrying out routine servicing of electrical/electronic equipment - 10 Credits
 - PEO1-025 Making components from wood-based materials - 10 Credits
 - PEO1-026 Assembling engineering woodwork components - 9 Credits
 - PEO1-027 Carrying out composite moulding activities - 10 Credits
 - PEO1-028 Assembling composite components - 9 Credits
 - PEO1-029 Preparing sand for moulding and core making - 5 Credits
 - PEO1-030 Making sand moulds and cores for casting - 10 Credits
 - PEO1-031 Manually casting components - 9 Credits
 - PEO1-032 Fettling cast components - 6 Credits
 - PEO1-033 Applying coatings or coverings to finish surfaces - 7 Credits
 - PEO1-034 Applying surface treatments - 7 Credits
 - PEO1-035 Applying heat treatment to engineering materials - 7 Credits
 - PEO1-036 Hand forging engineering materials - 7 Credits
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NVO Diploma in Performing Engineering Operations (QCF)	Level 2 500/9710/6
Last Registration Date	31 st December 2014
Last Certification Date	31 st December 2016

This qualification contains the following Pathways:

- **Engineering Practices:** 6 Units totalling a minimum of 40 Credits are required.
- **Technical Support:** 8 Units totalling 64 Credits are required.

For the Engineering Practices Pathway learners must achieve 40 Credits by completing 3 Mandatory Units and 3 Optional Units. Only one unit from 4, 32 and 61 may be chosen.

For the Technical Support Pathway learners must achieve 64 Credits by completing 3 Mandatory Units, 1 Unit from Option Group 1, 2 Units from Option Group 2 and 2 units from Option Group 3.

Mandatory Units

- PEO2-001 Working safely in an engineering environment - 5 Credits
- PEO2-002 Carrying out engineering activities efficiently and effectively - 4 Credits
- PEO2-003 Using and communicating technical information - 4 Credits

Engineering Practices Pathway

Learners must achieve 3 units from this Option Group.

Only one unit from 4, 32 and 61 may be chosen.

- PEO2-004 Producing mechanical engineering drawings using a CAD system - 11 Credits
- PEO2-005 Producing components using hand fitting techniques - 14 Credits
- PEO2-006 Producing mechanical assemblies - 15 Credits
- PEO2-007 Forming and assembling pipework systems - 14 Credits
- PEO2-008 Carrying out aircraft detail fitting activities - 14 Credits
- PEO2-009 Installing aircraft mechanical fasteners - 11 Credits
- PEO2-010 Producing aircraft detail assemblies - 14 Credits
- PEO2-011 Preparing and using lathes for turning operations - 15 Credits
- PEO2-012 Preparing and using milling machines - 15 Credits
- PEO2-013 Preparing and using grinding machines - 15 Credits
- PEO2-014 Preparing and proving CNC machine tool programs - 14 Credits
- PEO2-015 Preparing and using CNC turning machines - 14 Credits
- PEO2-016 Preparing and using CNC milling machines - 14 Credits
- PEO2-017 Preparing and using CNC machining centres - 14 Credits
- PEO2-018 Preparing and using industrial robots - 14 Credits
- PEO2-019 Maintaining mechanical devices and equipment - 14 Credits
- PEO2-020 Assembling and testing fluid power systems - 14 Credits
- PEO2-021 Maintaining fluid power equipment - 14 Credits
- PEO2-022 Producing sheet metal components and assemblies - 14 Credits
- PEO2-023 Producing platework components and assemblies - 14 Credits
- PEO2-024 Cutting and shaping materials using thermal cutting equipment - 14 Credits

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- PEO2-025 Preparing and proving CNC fabrication machine tool programs - 14 Credits
 - PEO2-026 Preparing and using CNC fabrication machinery - 14 Credits
 - PEO2-027 Preparing and using manual metal arc welding equipment - 15 Credits
 - PEO2-028 Preparing and using manual TIG or plasma-arc welding equipment - 15 Credits
 - PEO2-029 Preparing and using manual MIG, MAG and other continuous wire welding equipment - 15 Credits
 - PEO2-030 Preparing and using manual gas welding equipment - 14 Credits
 - PEO2-031 Preparing and using manual flame brazing and bronze welding equipment - 11 Credits
 - PEO2-032 Producing electrical or electronic engineering drawings using a CAD system - 11 Credits
 - PEO2-033 Wiring and testing electrical equipment and circuits - 14 Credits
 - PEO2-034 Forming and assembling electrical cable enclosure and support systems - 13 Credits
 - PEO2-035 Assembling, wiring and testing electrical panels/components mounted in enclosures - 14 Credits
 - PEO2-036 Assembling and testing electronic circuits - 14 Credits
 - PEO2-037 Maintaining electrical equipment/systems - 15 Credits
 - PEO2-038 Maintaining electronic equipment/systems - 15 Credits
 - PEO2-039 Maintaining and testing process instrumentation and control devices - 15 Credits
 - PEO2-040 Wiring and testing programmable controller based systems - 15 Credits
 - PEO2-041 Using wood for pattern, modelmaking and other engineering applications - 15 Credits
 - PEO2-042 Assembling pattern, model and engineering woodwork components - 14 Credits
 - PEO2-043 Producing composite mouldings using wet lay-up techniques - 14 Credits
 - PEO2-044 Producing composite mouldings using pre-preg laminating techniques - 14 Credits
 - PEO2-045 Producing composite mouldings using resin infusion techniques - 14 Credits
 - PEO2-046 Producing composite assemblies - 14 Credits
 - PEO2-047 Producing components by rapid prototyping techniques - 11 Credits
 - PEO2-048 Producing and preparing sand moulds and cores for casting - 14 Credits
 - PEO2-049 Producing and preparing molten materials for casting - 14 Credits
 - PEO2-050 Producing cast components by manual means - 13 Credits
 - PEO2-051 Fettling, finishing and checking cast components - 11 Credits
 - PEO2-052 Finishing surfaces by applying coatings or coverings - 9 Credits
 - PEO2-053 Finishing surfaces by applying treatments - 9 Credits
 - PEO2-054 Carrying out heat treatment of engineering materials - 9 Credits
 - PEO2-055 Carrying out hand forging of engineering materials - 9 Credits
 - PEO2-056 Stripping and rebuilding motorsport vehicles (pre-competition) - 14 Credits
 - PEO2-057 Inspecting a motorsport vehicle during a competition - 14 Credits
 - PEO2-058 Diagnosing and rectifying faults on motorsport vehicle systems (during competition) - 15 Credits
 - PEO2-059 Carrying out maintenance activities on motorsport vehicle electrical equipment - 15 Credits
 - PEO2-060 Stripping and rebuilding motorsport engines (pre-competition) - 14 Credits
 - PEO2-061 Producing CAD models (drawings) using a CAD system - 11 Credits
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Technical Support Pathway

Option Group 1

Learners must achieve 1 unit from this Option Group.

- PEO2-004 Producing mechanical engineering drawings using a CAD system - 11 Credits
- PEO2-032 Producing electrical or electronic engineering drawings using a CAD system - 11 Credits
- PEO2-061 Producing CAD models (drawings) using a CAD system - 11 Credits

Option Group 2

Learners must achieve 2 units from this Option Group.

- PEO2-062 Producing engineering project plans - 8 Credits
- PEO2-063 Using computer software packages to assist with engineering activities - 8 Credits
- PEO2-064 Conducting business improvement activities - 8 Credits

Option Group 3

Learners must achieve 2 units from this Option Group.

- PEO2-065 General machining, fitting and assembly applications - 12 Credits
 - PEO2-066 General fabrication and welding applications - 12 Credits
 - PEO2-067 General electrical and electronic engineering applications - 12 Credits
 - PEO2-068 General maintenance engineering applications - 12 Credits
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